CLAIMS:

1   1.   A method of operating a network device, comprising:

2   receiving electronic data from a first port of the data networking device;

3   deleting at least a portion of the electronic data prior to providing the electronic

4   data to the memory of the networking device;

5   providing at least a portion of the electronic data to a second port.

1   2.   The method of claim 1, further comprising modifying the electronic data prior to

2   said providing.

1   3.   The method of claim 1, wherein the electronic data comprise a frame.

1   4.   The method of claim 1, wherein the portion of electronic data deleted comprises a

2   VLAN (virtual local area network) tag.

1   5.   The method of claim 3, wherein modifying comprises inserting a VLAN tag to the

2   frame.

1   6.   The method of claim 3, further comprising generating a CRC (cyclic redundancy

2   code) and inserting the CRC into the frame prior to providing to the memory.

1   7.   The method of claim 1, further comprising providing a portion of the electronic

2   data to a control module prior to deleting a portion of the electronic data.

1   8.   The method of claim 7, wherein the portion of data provided to the control

2   module comprises the protocol header.

1   9.   The method of claim 1, wherein the first port and the second port comprise a

2   receive port and a transmit port, respectively.

1   10.   An apparatus, comprising:

2   one or more receive ports capable of receiving electronic data from a network;

3   one or more transmit ports capable of transmitting electronic data to a network;

4   a memory; and

5   a processor, the processor configured to, in operation:

6   delete at least a portion of the electronic data received by the one or more receive

7   ports;

8   provide the remaining electronic data to the memory;

9   read the electronic data from the memory;

10   modify the electronic data after reading from the memory; and

11   provide at least a portion of the electronic data to one or more of the transmit

12   ports.

1   11.   The apparatus of claim 10, wherein the processor is further configured to modify

2   the electronic data prior to providing at least a portion of the electronic data to one or

3   more of the transmit ports.

1   12.   The apparatus of claim 10, wherein the apparatus comprises a network switch.

1   13.   The apparatus of claim 12, wherein said memory comprises network switch

2   internal memory.

1   14.   The apparatus of claim 10, wherein said portion of electronic data deleted

2   substantially comprises a VLAN tag.

1   15.   The apparatus of claim 11, wherein modifying the electronic data comprises

2   inserting a VLAN tag, wherein the VLAN tag relates at least in part to the destination

3   address of the electronic data.

1   16.   The apparatus of claim 10, wherein the processor comprises a network

2   processor.

1   17.   The apparatus of claim 10, wherein the memory comprises a plurality of memory

2   devices.

1   18.   The apparatus of claim 17, wherein the plurality of memory devices comprise one

2   or more of: random access memory, static random access memory, and synchronous

3   dynamic random access memory.

1   19.   A system for network data communication, comprising:

2   a first port to receive electronic data from a network;

3   a second port to transmit electronic data to a network;

4   a memory to store electronic data; and

5   a processor coupled to the first port, second port, and the memory, wherein the

6   processor is configured to, in operation, delete at least a portion of electronic data

7   received on a first port, provide at least a portion of the electronic data to the memory,

8   and modify the electronic data prior to providing at least a portion of the electronic data

9   to the second port.

1   20.   The system of claim 19, wherein the electronic data comprise a frame.

1   21.   The system of claim 19, wherein the portion of electronic data deleted comprises

2   a VLAN (virtual local area network) tag.

1   22.   The system of claim 20, further comprising generating a CRC (cyclic redundancy

2   code) and inserting the CRC into the frame prior to providing to the memory.

1   23.   The system of claim 19, wherein modifying the electronic data comprises

2   inserting a VLAN tag, wherein the VLAN tag relates at least in part to the destination

3   address of the electronic data.

1   24.   The system of claim 19, wherein the processor comprises a network processor.

1   25.   The system of claim 19, wherein the memory comprises a plurality of memory

2   devices.

1   26.   The system of claim 25, wherein the plurality of memory devices comprise one or

2   more of: random access memory, static random access memory, and synchronous

3   dynamic random access memory.

1   27.   The system of claim 19, wherein said processor is configured to modify said

2   electronic data only if said second port is configured to recognize tags.